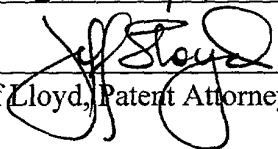


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on 31 July 2001


Jeff Lloyd, Patent Attorney

Patent Application
Docket No. KAS-103XC1
Serial No. (not yet assigned)
SUBMISSION OF SEQUENCE
LISTING 37 CFR 1821

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Frederick M. Hahn, Adelheid R. Kuehle
Serial No. : (not yet assigned)
Filed : July 31, 2001
For : Manipulation of Genes of the Mevalonate and Isoprenoid Pathways to Create Novel Traits in Transgenic Organisms

Assistant Commissioner for Patents
Washington D.C. 20231

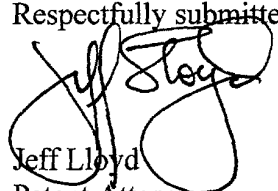
SUBMISSION OF SEQUENCE LISTING UNDER 37 CFR §1.821

Sir:

Transmitted herewith is a sequence listing under 37 CFR §§1.821 through 1.825 for the above-identified patent application.

The sequence is submitted in computer readable format and on paper. I hereby certify that the paper and computer readable copies contain the same sequence information and that no new material is added by this submission.

Respectfully submitted,


Jeff Lloyd
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Registration No. 35,589
Phone No.: 407-426-7500
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Orlando, FL 32801

JL/srp

Attachments: Sequence Listing on paper and in computer readable format; paperwork for filing Utility Patent Application.

SEQUENCE LISTING

<110> Hahn, Frederick

Kuehnle, Adelheid

<120> Manipulation of genes of the mevalonate and isoprenoid pathways to create novel traits in transgenic organisms

<130> KAS-103XC1

<150> 60/221,703

<151> 2000-07-31

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gccgccattt gtaatggtgg tgggtggtgct tcctctattg tcattgaaaa gatatga 1197

<210> 21

<211> 1386

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer containing R. capsulatus DNA

<400> 21
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<210> 22

<211> 1779

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer containing Schizosaccharomyces pombe DNA

<400> 22
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<210> 23

<211> 684

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer containing *S. pombe* DNA

<400> 23

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atttgtgagc attttatgtt taaatggtgg caggatgtag atcatgcgtc aaaattccaa 660

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gataccttaa ttcacggttg ctaa

684

<210> 24

<211> 531

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer containing Streptomyces sp CL190 DNA

<400> 24
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<210> 25

<211> 65

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer containing Streptomyces sp CL190 DNA

<400> 25
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 gctgg 65

<210> 26

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. cerevisiae* DNA

<400> 26
gagctccacc gcggcgccg cgctcgactac ggccgcagga ggagttcata tgtcagagtt 60

<210> 27

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. cerevisiae* DNA

<400> 27
tctaccaaag gaagaggagt tttaactcga gtaggaggca catatgtctc agaacgttta 60

<210> 28

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *Streptomyces* sp CL190 and
R. capsulatus DNA

<400> 28
caagaccgca aaggttggtg catagacgcg gtaaggaggc acatatgagt gagcttatac 60

<210> 29

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *R. capsulatus* DNA

<400> 29
cctgcgcggc tgagcggccg cggatccgat cgcgtgcggc gcggtaccc aattcgccct 60

<210> 30

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing Streptomyces sp CL190
and S. cerevisiae DNA

<400> 30
tgtcattgaa aagatatgag gacacctag gtacttcctt ggcgtgtgca gcggttgacg 60

<210> 31

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing Streptomyces sp CL190 DNA

<400> 31
cgattccgca ttatcggtac gggcgcctac ctagaactag tggatcccc gggctgcagg 60

<210> 32

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing N. tabacum and S. cerevisiae DNA

<400> 32
ctttcctgaa acataattta taatcagatc ggccgcagga ggagttcata tgtcagagtt 60

<210> 33

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing N. tabacum and R. capsulatus DNA

<400> 33

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<210> 34

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing N. tabacum and S. cerevisiae DNA

<400> 34

ctttcctgaa acataattta taatcagatc ggccgcagga ggagttcata tgtcagagt 59

<210> 35

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing N. tabacum and S. pombe DNA

<400> 35

tcgttgctaa ggatcccccg ggatccggcc gatctaaaca aacccggaac agaccgttgg 60

<210> 36

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing NotI restriction site

<400> 36
catggcggcc gcg

13

<210> 37

<211> 13

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing NotI restriction site

<400> 37
gatccgcggc cgc

13

<210> 38

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. cerevisiae* DNA

<400> 38
ttaaataagg aggaataaac catggcggcc gcaggaggag ttcataatgac agagttgaga

60

<210> 39

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *A. thaliana* DNA

<400> 39

aacaacaaca acatgacccg ggatccggcc gcatccgag ctgagatct gcagctggta 60

<210> 40

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. cerevisiae* DNA

<400> 40
tcgattaaat aaggaggaat aaaccatggc ggccgcagga ggagttcata tgtcagagtt 60

<210> 41

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *R. capsulatus* DNA

<400> 41
gattttcgga tcgattcctgc gcggctgagc ggccgcgagc cgagctcgag atctgcagct 60

<210> 42

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. cerevisiae* DNA

<400> 42
tcgattaaat aaggaggaat aaaccatggc ggccgcagga ggagttcata tgtcagagtt 60

<210> 43

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. pombe* DNA

<400> 43
ttcatcggtg ctaaggatcc cccgggatcc ggccgcgatc cgagctcgag atctgcagct 60

<210> 44

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *R. capsulatus* DNA

<400> 44
ttaaataagg aggaataaac catggcggcc gtaaggaggc acatatgagt gagcttatac 60
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<210> 45

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *R. capsulatus* DNA

<400> 45
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t 61

<210> 46

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. pombe* DNA

<400> 46
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<210> 47

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide containing *S. pombe* DNA

<400> 47
accttaattc atcgttgcta aggatcccc ggccgcgata cgagctcgag atctgcagct 60

<210> 48

<211> 1356

<212> DNA

<213> *Saccharomyces cerevisiae*

<400> 48
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<210> 49

<211> 1332

<212> DNA

<213> *Saccharomyces cerevisiae*

<400> 49

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<210> 50

<211> 1191

<212> DNA

<213> *Saccharomyces cerevisiae*

<400> 50

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<211> 1197

<212> DNA

<213> *Saccharomyces cerevisiae*

<400> 51

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<212> DNA

<213> Arabidopsis thaliana

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<223> Schizosaccharomyces pombe IDI1 (IPP isomerase)

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<211> 531

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<210> 57

<211> 6798

<212> DNA

<213> Artificial Sequence

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<223> Streptomyces sp CL190 gene cluster containing mevalonate pathway
and IPP isomerase orfs

<400> 57

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<212> DNA

<213> Artificial Sequence

<220>

<223> Operon containing A. thaliana and S. cerevisiae DNA

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